MSc CREATIVE SOFTWARE SYSTEMS

Course Dissertations (Abstracts)

2010/2011

Ferrando Anthony (supervisor Peter J. King)

Client-Server Access to Large Virtual Worlds

The aim of this project is to investigate different techniques to represent and share a huge virtual world. The terrain is held in a central server which will communicate with several clients at the same time. Each client has only access to a small part of the entire terrain at a time but it can move across the environment without any loading time. Moreover, it can make small changes such as adding or deleting virtual models (objects which are lying on the terrain), or changing the topology of the terrain (shape and texture of the ground). All those changes have to affect the main terrain held in the server as well as on the others clients. The first part is focussed on investigating efficient representations of terrains in memory. The main constraints of this representation will be size and complexity to access the data. The second part is aimed at implementing different sharing algorithms for each data representation. Finally, a series of tests will show strengths and weaknesses of each algorithm and representation and their impacts on the performance of the clients and server application.

Douglas Barr (supervisor Mike Chantler)

A Feasibility Study Into The Development of a Gesturally Controlled Music Player for Android

A feasibility study is presented into the creation of a music player for mobile devices, running on the Android platform, which uses inertial sensor based gestural control mechanisms. A variety of alternative user interface solutions for organising and navigating very large digital music collections have been developed. Mobile devices are a particular target for this due to their small screen size and increasingly sophisticated system of sensors. Technology capable of inertial sensor based gestural control has only recently become available to the consumer market, and a range of gesture recognition algorithms have been the subject of recent research. This paper will investigate the main issues facing the development of a gesture recognition system suitable for inertial sensors. Prototypes for both a music player based on the Android platform and an appropriate gestural control system are provided. Technical limitations of the mobile platform and the gestures suitable for inertial sensors were found, and suggestions for further work are provided. The project aims to provide a clear roadmap for the development of a finished application which adds meaningful value to user experience in the field of Electronic Music Distribution.

Mahmood, Suhayb (supervisor Mike Chantler,)

IPHONE 3D GAME

This Masters project is aimed at about building an iPhone game that uses shaders to enhance the graphics. The game will record player locations and the length of time spent at
these specific areas, whilst focussing on shader locations to see if there is preference from the players. A discussion on the subject of shaders and their importance to the 3D graphics is provided in a literature review. This paper discusses the approach taken to create the game by generating requirements and then finding a framework that fulfils those requirements. An evaluation methodology is designed and a project plan revealed. Finally, the results are presented as maps and the data is statistically analysed to find if there is any significance.

ONLEM Anil (Supervisor Sandy Louchart)

“COMIC APPLICATION”

This project addresses the problem behind the gap created between the comic application and its user due to the user’s lack of knowledge of CSDL. A Graphical User Interface (GUI) is developed which guides the user through the process of comic creation without the user ever having to actually encode the comic script in a Comic Strip Description Language (CSDL). The created Comic application accomplishes this for him/her. The generated CSDL file representing the user’s desired comic story is then rendered by the Comics 2D system and visualised.

Evaluation processes were carried out in which functional tests were undertaken for various aspects. A workshop was also organised for two different groups of students where the participants were asked to design a GUI that they would, to some extent, expect to see for such an application. The valuable feedback received from this workshop gave rise to various ideas of ways of further developing the application.

Jouve, Cécile (Supervisor: Mike Chantler)
Making tea with an iPhone

This dissertation presents the work done as part of the design and implementation of an iPhone application to be built on the theme of tea. The aim was to produce a pre-production but fully functional application supporting all or most of the features described in the Research Report using a user centred iterative method.

The process started with the joined evaluation of a paper prototype which realization was based on the background research and the concept evaluation both presented in the Research Report. In this way, a heuristic evaluation first helped me identify a few issues whereas most of the modifications were induced by the results of the following user testing. While several secondary features needed to be reviewed and adapted, I managed to keep intact the initial spirit and to preserve the main feature aimed to help people making their brew. Through the coding of the application, despite the time constraints and the technical challenges, I then succeeded in producing a working version faithful to the prototype and to the users requirements.

Finally, after conducting a user evaluation of the interface, which gave rise to a couple of modifications, I undertook a series of on the spot experiments. In the future I aim to complete and improve the application (using my own ideas as well as those suggested by users all along the process) and possibly put it on the App Store.
Open EEG Interface

This dissertation looks at the possibility of using an Electroencephalograph or EEG device in an interactive story. It focuses on the processes required to create an interactive story and then the processes required to get an EEG functioning and usable for this project. The aim of getting the EEG to work is the ability to be able to review test data collected from a live test involving the interactive story and then looking at what this data might suggest in terms of viability of such a system. If the test could prove that this system was feasible it would allow for much greater developments down the line. The idea is it could lead on to entirely interactive pieces of media like films and video games solely created around their operation by an EEG. This operation would undoubtedly provide the advantage of being a system that works without the need of any physical interactions so it doesn't feel like the user is having an effect on what they are viewing even if they are. While the overarching goal is to prove that an EEG is a feasible device for use in controlling interactive stories by emotions it is not guaranteed to be the result. The title “Open EEG Interface” was the initial title used for the project but became quite ironic when the open EEG, open source project, produced no software usable with the hardware device used for the project.